

REMARKS

The drawings were objected to under 37 CFR 1.83(a). Claims 13 to 15, 17 to 20, 23, 24, 28 and 31 stand rejected under 35 U.S.C. 102(b) as being unpatentable as anticipated by Lepperhoff et al. (DE 10036597). Claim 29 stands rejected under 35 U.S.C. 102(b) as being unpatentable as anticipated by Machida et al. (U.S. Patent 6,375,695). Claim 16 stands rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Lepperhoff et al. Claims 21, 22, 25 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff et al. in view of Machida et al. Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff et al. in view of Cooper et al. (U.S. Patent 4,902,487). Claim 30 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Machida et al. in view of Lepperhoff et al.

Fig. 1 of the drawings is hereby amended to include previously omitted reference character 15, which denotes a closure wall, and the specification is hereby amended at paragraph [0014] to describe closure wall 15. Support is found in the specification as filed at paragraphs [0004] and [0005], for example. No new matter is added.

Claims 13, 19, 29 and 31 are hereby amended to more particularly and distinctly claim the present invention.

Reconsideration of the application is respectfully requested.

Objection to the drawings

The drawings were objected to under 37 CFR 1.83(a) because the “closure wall configured to be partially opened to enable the disposing of the particle constituents” of claims 19 and 31 was not identified in the drawings. To resolve this issue, Fig. 1 of the drawings is hereby amended to include previously omitted reference character 15, which denotes a closure wall, and the specification has been amended at paragraph [0014] to describe closure wall 15. Support is found in the specification as filed at paragraphs [0004] and [0005], for example. No new matter is added. Withdrawal of the objection to the drawings is respectfully requested.

Rejections under 35 U.S.C. 102(b): Lepperhoff et al.

Claims 13 to 15, 17 to 20, 23, 24, 28 and 31 stand rejected under 35 U.S.C. 102(b) as being unpatentable as anticipated by Lepperhoff et al.

Lepperhoff et al. discloses a filter assembly that includes a housing 1, a lower inlet chamber 2, an upper outlet chamber 3 and filter bodies 8 disposed between lower inlet chamber 2 and upper outlet chamber. (Lepperhoff et al., Fig. 1, paragraph [0014]).¹ A bottom of lower inlet chamber 2 is provided with a cover 13 of sheet metal provided with holes or slits 13.1 and deflection means 13.2 adjacent to the slits 13.1. (Id., Fig. 1, paragraph [0016]). Cover 13 forms the top of an ash collecting chamber 14, which catches ash particles that fall from filter bodies 8. (Id.). A drivable shaking mechanism 15 is disposed between filter bodies 8 to shake ash from filter bodies 8 into ash collecting chamber 14, preferably during downtimes in operation. (Id., Fig. 1, paragraphs [0019] to [0020]).

Claim 13 recites “[a] method for operating a filter, the method comprising:

forcibly passing a stream of a fluid through a filter wall of the filter from a raw gas side to a clean gas side of the filter so as to separate out particles and particle constituents from the stream, wherein the particles and particle constituents are collected by the filter wall on the raw gas side; and

performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall and moving particle constituents not removed from the raw gas side of the filter by the regeneration process to a receiving device disposed downstream of at least a portion of the filter on the raw gas side by forcibly passing a stream of fluid through the filter so that the particle constituents are carried by the fluid to the receiving device.” Claims 14, 15, 17, 18, 20, 23, 24 and 28 are dependent on claim 13.

It is respectfully submitted that Lepperhoff et al. does not disclose the step of claim 13 of “moving particle constituents not removed from the raw gas side of the filter by the regeneration process to a receiving device disposed downstream of at least a portion of the filter on the raw gas side by forcibly passing a stream of fluid through the filter so that the particle constituents are

¹ All citations to Lepperhoff et al. discussed herein refer to the machine translation of Lepperhoff et al. provided by the Examiner with the June 11, 2009 Final Office Action.

carried by the fluid to the receiving device.” Lepperhoff et al. discloses shaking ash particles off of filter bodies 8 and into ash collecting chamber 14 via a shaking mechanism 15, not moving ash particles to ash collecting chamber 14 by passing a stream of fluid through filter bodies 8. Also, no portion of ash collecting chamber 14 is located downstream of any portion of filter bodies 8. Thus, Lepperhoff et al. does not disclose the “moving” step of claim 13 and claim 13 is not unpatentable as anticipated by Lepperhoff et al.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 13 and its dependent claims is respectfully requested.

Claim 19 recites “[a] method for operating a filter including a plurality of filter walls forming a plurality of channels which are closed by a closure wall configured to be partially opened, the method comprising:

forcibly passing a stream of a fluid through the filter walls of the filter from a raw gas side to a clean gas side of the filter so as to separate out particles and particle constituents from the stream, wherein the particles and particle constituents are collected on the raw gas side; and

performing a regeneration process on the filter during operation of the filter to remove particles from the filter wall and disposing of the particle constituents not removed from the raw gas side of the filter by the regeneration process by forcing the particle constituents through the channels toward the closure wall.” (emphasis added).

It is respectfully submitted that Lepperhoff et al. does not disclose the step of claim 19 of “disposing of the particle constituents not removed from the raw gas side of the filter by the regeneration process by forcing the particle constituents through the channels toward the closure wall.” (emphasis added). In Lepperhoff et al., slits 13.1 are different from the “channels” required by claim 19 because slits 13.1 are not formed by filter bodies 8 as specifically required by claim 19. Also, in Lepperhoff et al., ash particles are shaken off of filter bodies 8 and into ash collecting chamber 14 via the shaking mechanism 15, not by forcing the ash particles through any channels formed in filter bodies 8. Thus, Lepperhoff et al. does not disclose the “disposing” step of claim 19 and claim 19 is not unpatentable as anticipated by Lepperhoff et al.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 19 is respectfully requested.

Claim 31 recites “[a] filter comprising:

a filter wall dividing a clean gas side and a raw gas side of the filter and configured to separate out particles and particle constituents from a stream of fluid passing through the filter wall and to enable the particles to be removed in a regeneration process, wherein the filter wall forms a plurality of channels on the raw gas side, each channel being closed by a closure wall configured to be at least partially opened so as to enable disposal of the particle constituents.” (emphasis added).

It is respectfully submitted that Lepperhoff et al. does not disclose the limitation of claim 31 of a filter wall that “forms a plurality of channels on the raw gas side, each channel being closed by a closure wall configured to be at least partially opened so as to enable disposal of the particle constituents.” In Lepperhoff et al., it is clear from Fig. 1 that slits 13.1 are different from the “channels” required by claim 19 because slits 13.1 are not formed by filter bodies 8. Thus, Lepperhoff et al. does not disclose the “filter wall” required by claim 31 and claim 31 is not unpatentable as anticipated by Lepperhoff et al.

Based on the foregoing, withdrawal of the rejection under 35 U.S.C. 102(b) of claim 31 is respectfully requested.

Rejections under 35 U.S.C. 102(b): Machida et al.

Claim 29 stands rejected under 35 U.S.C. 102(b) as being unpatentable as anticipated by Machida et al.

Machida et al. discloses an apparatus for processing exhaust gases that includes two filters 2, 4, a counter air supply portion 3, an exhaust gas supply pipe 7, an exhaust gas discharge pipe 8, a transport pipe 5, and a process portion 6. (Machida et al., Fig. 1, col. 4, lines 47 to 53).

Claim 29 recites “[a] filter comprising:

a filter wall dividing a clean gas side and a raw gas side of the filter and configured to

separate out particles and particle constituents from a stream of fluid passing flowing from the raw gas side through the filter wall and to enable the particles to be removed in a regeneration process; and

a receiving device located downstream of at least a portion of the filter wall configured to receive a flow of the fluid from the raw gas side of the filter therethrough and to receive and hold the particle constituents, wherein the receiving device is connectable on the raw gas side of the filter wall, the filter wall and receiving device being arranged such that the stream of fluid passing through the filter wall from the raw gas side forces the particle constituents into the receiving device.”

It is respectfully submitted that Machida et al. does not disclose the limitation of claim 29 of “the filter wall and receiving device being arranged such that the stream of fluid passing through the filter wall from the raw gas side forces the particle constituents into the receiving device.” Machida et al. discloses introducing counter air through discharge valves 304, 305 into a room 210 located on a clean gas side of filter main body 20 to build up a pressure in room 210. (Machida et al., Fig. 1, col. 6, lines 10 to 19). The pressure in room 210 then dislodges fine particles built up on filter main body 20 which fall into a process portion 6, located below filter main body 20, where the fine particles are then fired. (Id., Fig. 1, col. 7, lines 19 to 22). Because the air passing from room 210 into room 212 carrying the fine particles from filter main body 20 into process portion 6 does not come from the raw gas side of filter main body 20, Machida et al. clearly does not teach or disclose the arrangement of the “filter wall” and the “receiving” device required by claim 29. Thus, claim 29 is not unpatentable as anticipated by Machida et al.

Withdrawal of the rejection under 35 U.S.C. 102(b) of claim 29 is respectfully requested.

Rejection under 35 U.S.C. 103(a): Lepperhoff et al.

Claim 16 stands rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Lepperhoff et al.

Lepperhoff et al. is described above.

Claim 16 is dependent on claim 13. As discussed above, Lepperhoff et al. does not disclose the “moving” step of claim 13. Furthermore, it is respectfully submitted because one of

skill would not have had any reason to have modified the method of shaking ash particles off of filter bodies 8 disclosed in Lepperhoff et al. to include the “moving” step of claim 13, it would not have been obvious for one of skill in the art to have modified the method of Lepperhoff et al. to include all of the limitations of claim 16. Thus, withdrawal of the rejection under 35 U.S.C. 103(a) of claim 16 is respectfully requested.

Rejection under 35 U.S.C. 103(a): Lepperhoff et al. and Machida et al.

Claims 21, 22, 25 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff et al. in view of Machida et al.

Lepperhoff et al. and Machida et al. are described above.

Claims 21, 22, 25 and 26 are dependent on claim 13. As discussed above, Lepperhoff et al. does not disclose the “moving” step of claim 13. Machida et al. also does not disclose the “moving” step of claim 13 and thus does not cure the deficiency of Lepperhoff et al. with respect to claim 13. In view of the arguments presented above explaining why claim 13 is not unpatentable in view of Lepperhoff et al., withdrawal of the rejection under 35 U.S.C. 103(a) of claims 21, 22, 25 and 26 is respectfully requested.

Rejection under 35 U.S.C. 103(a): Lepperhoff et al. and Cooper et al.

Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lepperhoff et al. in view of Cooper et al. (U.S. Patent 4,902,487).

Lepperhoff et al. is described above. Cooper et al. discloses a process of treating diesel exhaust gas. The method of Cooper et al. involves “contacting particulate entrapped on the filter with NO₂ gas so as to caused combustion of the particulate and its consequent removal from the filter.” (Cooper et al., col. 1, lines 44 to 47).

Claim 27 is dependent on claim 13. Cooper et al. also does not disclose the “moving” step of claim 13 and thus does not cure the deficiency of Lepperhoff et al. with respect to claim 13. In view of the arguments presented above explaining why claim 13 is not unpatentable in view of Lepperhoff et al., withdrawal of the rejection under 35 U.S.C. 103(a) of claim 27 is respectfully requested.

Rejection under 35 U.S.C. 103(a): Machida et al. and Lepperhoff et al.

Claim 30 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Machida et al. in view of Lepperhoff et al.

Lepperhoff et al. and Machida et al. are described above.

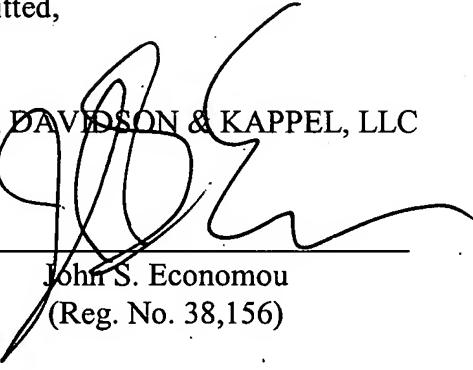
Claim 30 is dependent on claim 29. As discussed above, Machida et al. does not disclose the arrangement of the “filter wall” and the “receiving device” required by claim 29. Lepperhoff et al. also does not disclose the arrangement of the “filter wall” and “receiving device” required by claim 29 and thus does not cure the deficiency of Machida et al. with respect to claim 29. In view of the arguments presented above explaining why claim 29 is not unpatentable in view of Machida et al., withdrawal of the rejection under 35 U.S.C. 103(a) of claim 30 is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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